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## ABSTRACT OF THE DISCLOSURE

The present invention is provided for fusion splicing optical fibers with low splice loss even when a shape of a discharge beam for the splicing is distorted. In the present invention, a preliminary discharge is performed with the optical fibers outside a discharge area and an image of the discharge beam thereof is picked up. Based on this image, brightness distributions of the discharge beam are estimated on a plurality of lines in a Z direction that are set in different positions in an X direction, and a discharge center of the beam is found from the plurality of brightness distributions. Then, the abutment portion of the optical fibers is positioned at the discharge center, and a main discharge is performed so as to fusion splice the distal ends of the optical fibers.

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